

REMARKS

The above-noted amendments to the claims are respectfully submitted in response to the official action dated September 20, 2007, herein. These amendments are fully supported in the specification and no new matter is included therein. For example, reference to the timing belt "for movement over a pulley" is specifically described in the specification including at paragraph [0020], lines 8-13. The reference to the requirement that the tracking guide be adapted for engagement with said pulley is also disclosed at paragraph [0020], lines 8-13. Reference to the wave glide surface being adapted for contacting a support member for providing structure and integrity to the timing belt and not for engagement with the pulley is also disclosed in the specification, including in paragraph [0025], lines 6 and 7, and the figures thereof.

Before reviewing the specific rejections interposed by the Examiner, it is noted that the thrust of the present invention relates to wave glide surfaces for use in connection with timing belts. These wave glide surfaces are specifically defined in accordance with the present invention as having a specified cross-sectional side view that assists in manipulation of the coefficient of friction between the belt and a slider bed. Such slider beds are used in connection with such wave glide surfaces, as shown in Figure 1 for example, in order to maintain the integrity of the belt during use. Thus, these flexible belts would not be able to function properly either in, for example, propelling vehicles forward or moving products across a conveyor, without the use of such slider beds. In accordance with the present invention, this is accomplished while at the same time the frictional engagement therebetween is minimized.

Claims 11, 12 and 18 have been rejected as being anticipated by Guillen, Jr. et al. under 35 U.S.C. § 102(b).

The Examiner contends that Guillen, Jr. et al. discloses a belt comprising a wave glide surface 26 extending longitudinally and having an apex and a base portion as well as a tracking guide 37 extending longitudinally, and in accordance with claim 12 having a height greater than the apex of the portion of the wave glide. This rejection is respectfully traversed in view of the above amendments and arguments and for the reasons set forth hereinafter.

The belt shown in Guillen, Jr. et al. bears no relationship to the presently claimed invention. Firstly, after discussing the prior art reciprocating belt shown in Figure 1 thereof, including motor-driven pulley 11 having a toothed surface 12 for driving engagement with the internal surface 16 of belt 15, it is stated that this surface has transversely extending teeth with a constant profile for engagement with the pulley 11. The invention of Guillen, Jr. et al. is thus said to be set forth in Figure 2 in which half the belt is essentially identical to the belt shown in Figure 1 whereas the other half 25 of the belt 20 includes longitudinal ribs 37 for engagement with grooves 27 in idler pulley 28.

Turning to the claims, the Examiner's position that the claimed wave glide surface corresponds to first half 26 of the belt drive 20 in Figure 2 of Guillen, Jr. et al. is not correct, particularly with reference to the amended claims herein. Thus, the teeth shown in Figure 3 are specifically intended for engagement with the corresponding teeth 12 in pulley 11, and are thus not wave glide surfaces as required by the present claims. Again, the claimed wave glide surfaces hereof are used for contact with the support member in order to provide structure and integrity to the timing belt but not for engagement with the pulley. Quite the opposite is true in this cited reference. Indeed, in the structure shown in Guillen, Jr. et al. the teeth 26 could not be employed for the purposes of

the present invention since they are engaged with teeth 12 in pulley 11 and during half of the operation of the reciprocal belt no teeth remain available to even be contacted with a slider bed 15 or any other support member of that type, even if Guillen, Jr. et al. suggested such use, which it does not. As for claim 18, the two surfaces are not adjacent to each other; they are in separate portions of the timing belt shown in Figure 2 of Guillen, Jr. et al. In any event, claim 18 has been further amended to clarify the meaning of adjacent in accordance with the present invention. It is thus believed that claim 18 clearly distinguishes over Guillen, Jr. et al.

Claims 11, 12 and 18 have been rejected as being anticipated by Breher under 35 U.S.C. § 102(b). The Examiner contends that Breher discloses a belt with a wave glide surface 4/5 extending longitudinally and having an apex 4 and a base portion 5, as well as a tracking guide 26 extending longitudinally. The tracking guide is said to have a height greater than the apex of the portion of the wave glide, and the tracking guide is said to be adjacent to the wave glide surface therein. This rejection is respectfully traversed in view of the above amendments and arguments and for the reasons set forth hereinafter.

Once again in this case, it is applicant's position that the cited Breher reference does not disclose a wave glide surface of any kind. Indeed, it is clear from the disclosure of Breher that the sole purpose of tooth ribs 4 is to engage the tooth groove 25 shown in Figure 2 of Breher on the pulley 10 thereof. This, of course, is in conjunction with the engagement of the higher guide ribs 8 for engagement with the deeper base 24 of annular groove 11 on the pulley 10. Again, Breher does not disclose a wave glide surface, and certainly not one which is adapted for contacting a support member for providing

structure and integrity to the timing belt, while not being extended engagement with the pulley.

Claims 13 and 14 have been rejected as being obvious over Breher in view of Macchiarulo *et al.* under 35 U.S.C. § 103(a). After admitting that Breher does not disclose a belt having teeth on the back surface of the belt, the Examiner contends that Macchiarulo *et al.* discloses a belt with a plurality of teeth 2 on the back surface of the belt where the teeth have ribs 5 and grooves 6. It is thus said to be obvious to modify Breher so that the belt thereof comprises a plurality of teeth on the back surface in view of Macchiarulo *et al.* to increase the belt flexibility. This rejection is respectfully traversed in view of the above amendments and arguments and for the reasons set forth hereinafter.

It is initially noted that claims 13 and 14 require teeth in addition to the wave glide surface required by claim 11 herein. Applicant, of course, repeats his above-noted contentions with respect to the deficiencies of Breher with respect to claim 11, and certainly with respect to claims 13 and 14. Turning to Macchiarulo *et al.*, this disclosure is principally directed to an elastomeric V-belt, particularly as a transmission belt, as shown between pulleys 9 and 10 in Figure 2, which includes alternate rows of teeth on both sides of the belt as shown in Figure 1A; namely, corresponding teeth 5 with groove 6 on one side, and a group of teeth 7 with grooves 8 on the other side, with the areas of lateral surfaces of teeth opposed to one another "for contacting the flanks of the two pulleys 9 and 10 that form part (see Figure 2) of a transmission for continuous speed variators." (Col.3, 11.21-25). It is therefore clear that, although Macchiarulo *et al.* discloses teeth on the sides of the belt for engaging a pulley, it discloses neither a wave glide surface for the purposes of the present invention nor the combination of a wave glide surface

with the teeth required by claims 13 and 14 hereof. Indeed, the wave glide surface of the present invention, as discussed in detail above, is intended for operation with a slider surface for providing structure and integrity for the timing belt of the present invention. In Macchiarulo *et al.*, far from serving such a function, in fact separate stiffening elements 11 are required for the teeth themselves. Since this is clearly not the object of this disclosure, it is therefore respectfully submitted that these references do not obviate claims 13 and 14, and withdrawal of this rejection is therefore respectfully requested.

Claims 16, 19 and 20 have been rejected as being unpatentable over Breher in view of Kohn under 35 U.S.C. § 103(a). After admitting that Breher does not disclose at least one channel provided in the wave glide surface, the Examiner contends that Kohn discloses a belt with at least one channel 21 and that it would therefore be obvious to modify the belt of Breher to include at least one channel in view of Kohn to reduce noise. Regarding claims 19 and 20, the Examiner admits that Kohn does not disclose the shape of the channel as claimed, but contends that it would be obvious to provide the claimed shape for the channels since a change in the basic shape of a known apparatus would be obvious, citing *In re Dailey*, 149 U.S.P.Q.47 (C.C.P.A. 1976). This rejection is respectfully traversed in view of the above amendments and arguments and for the reasons set forth hereinafter.

Again, applicant reiterates his above-noted contentions with respect to the clear deficiencies of Breher with respect to claim 11 and clearly with respect to claims 16, 19 and 20. It is once again submitted that since Breher does not disclose applicant's wave glide channel for the purposes claimed herein, even employing the Examiner's reasoning, Kohn does not even purportedly overcome these deficiencies of the primary reference cited hereagainst.

Turning to Kohn itself, this is yet another reference, as shown in Figure 1, which relates to a positive power drive transmission system with an endless belt 10 and two tooth pulleys 11 and 12 acting in concert. Thus, the endless belt includes teeth, in this case with different cross-sectional configurations, for engagement with the pulleys 11 and 12. The Examiner refers, for example, to Figure 4 which shows discontinuities in the form of longitudinal ridges 21 spaced transversely across the entire working surface of the belt 10. However, once again, since neither Breher nor Kohn teaches the critical wave glide surface required by the present claims, the presence of teeth for engaging pulleys does not suggest the combination required by claims 16, 19 and 20, and withdrawal of this rejection is therefore also respectfully requested.

Claim 17 has been rejected as being unpatentable over Breher in view of Macchiarulo *et al.* and further in view of Kohn under 35 U.S.C. § 103(a). After admitting that Breher does not disclose at least one channel provided on the wave glide surface, Kohn is said to disclose a belt with at least one channel 21, and it is thus said to be obvious to modify the belt of Breher to include at least one channel in view of Kohn to reduce noise. This rejection is respectfully traversed in view of the above amendments and arguments and for the reasons set forth hereinafter.

Applicant would initially reiterate all of his above-noted contentions with respect to the deficiencies of the Breher, Macchiarulo *et al.* and Kohn references. Once again, since none of these three references includes any disclosure of the critical wave glide surface required by all of the claims in this application, it is clear that the various combinations interposed by the Examiner cannot overcome this basic deficiency in these references, and to select specific elements from the various references to attempt to combine them to produce the

timing belt of the present claims is not deemed to overcome this basic deficiency in the art. Therefore, review, reconsideration and withdrawal of this rejection is respectfully requested.

Claims 23-28 have been rejected as being unpatentable over Breher in view of Macchiarulo *et al.* and Kohn under 35 U.S.C. § 103(a). After admitting that Breher does not disclose at least one channel provided in the wave glide surface, the Examiner contends that Kohn discloses a belt with at least one channel 21 and that it would therefore be obvious to modify the belt of Breher include at least one channel in view of Kohn to reduce noise. In addition, Breher is admitted not to disclose the belt having teeth on the back surface but Macchiarulo *et al.* is said to disclose same. The Examiner thus concludes that it would be obvious to modify the belt of Breher to comprise a plurality of teeth on the back surface in view of Macchiarulo *et al.* to increase the flexibility of the belt. This rejection is respectfully traversed in view of the above amendments and arguments and for the reasons set forth hereinafter.

Applicant reiterates the above-noted contentions with respect to the clear deficiencies of each of the Breher, Macchiarulo *et al.* and Kohn references. All of applicant's arguments apply with at least equal force to claims 23-28, and it is thus believed that detailed restatement of the deficiencies of each of these references is unnecessary, particularly in view of the fact that none of these references specifically discloses the critical wave glide surface which is the most essential element of all of the claims in this application including claims 11 and 23.

It is therefore respectfully submitted that all of the claims now pending in this application possess the requisite novelty, utility and unobviousness to warrant their immediate allowance, and such action is therefore respectfully solicited.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he telephone applicant's attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

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Respectfully submitted,

By 

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